

(b) contacting the catalyst composition with one or more olefins under polymerization conditions to form a polyolefin.

24. (new) The process of Claim 23, wherein the components of the catalyst composition are contacted for at least 1 min.

25. (New) The process of Claim 23, wherein the components of the catalyst composition are contacted for between 1 min. to one day.

26. (New) The process of Claim 23, wherein the components of the catalyst composition are contacted for between one hour and one day.

27. (New) The process of Claim 23, wherein the components in step (i) are combined in a diluent having a flash point of greater than 200°F (93°C).

28. (New) The process of Claim 23, wherein the components in step (i) are combined in a hydrocarbon diluent.

29. (New) The process of Claim 23, wherein the component in step (ii) is suspended in a diluent having a flash point of greater than 200°F (93°C) prior to forming the catalyst composition.

30. (New) The process of Claim 23, wherein the component in step (ii) is suspended in a hydrocarbon diluent prior to forming the catalyst composition.

31. (New) The process of Claim 23, further comprising the step of combining a cycloalkadiene compound.

32. (New) The process of Claim 31, wherein the cycloalkadiene compound is selected from cyclopentadiene, methylcyclopentadiene, ethylcyclopentadiene, t-butylcyclopentadiene, hexylcyclopentadiene, octylcyclopentadiene, 1,2-dimethylcyclopentadiene, 1,3-dimethylcyclopentadiene, 1,2,4-trimethylcyclopentadiene, 1,2,3,4-

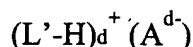
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tetramethylcyclopentadiene, pentamethylcyclopentadiene, indene, 4-methyl-1-indene, 4,7-dimethylindene, 4,5,6,7-tetrahydroindene, fluorene, methylfluorene, cycloheptatriene, methylcycloheptatriene, cyclooctatetraene, methylcyclooctatetraene, fulvene and dimethylfulvene.

33. (New) The process of Claim 23, wherein the catalyst compound is a metallocene compound.

34. (New) The process of Claim 23, wherein the catalyst compound is a transition metal catalyst based on bidentate ligands containing pyridine or quinoline moieties.

35. (New) The process of Claim 23, wherein the ionizing activator is a compound represented by the formula:



wherein L' is an neutral Lewis base;

H is hydrogen;

(L'-H)<sup>+</sup> is a Bronsted acid

A<sup>d-</sup> is a non-coordinating anion having the charge d-; and

d is an integer from 1 to 3.

36. (New) The process of Claim 23, wherein the ionizing activator is a tri-substituted boron, tellurium, aluminum, gallium, or indium compound or mixtures thereof.

37. (New) The process of Claim 23, wherein the mole ratio of the ionizing activator to the catalyst compound transition metal atom is from 0.01 to 1.0.

38. (New) The process of Claim 27 or 29, wherein the diluent is mineral oil.

39. (New) The process of Claim 23, wherein the process is a gas phase process.

40. (New) A process for polymerizing olefin(s) comprising the steps of:
- (a) preparing a catalyst composition by combining a catalyst compound, supported alumoxane or aluminum alkyl activators, and an ionizing activator to form the catalyst composition, wherein the catalyst composition is contacted for at least 1 min prior to contacting with olefin(s) for polymerization; and
- (c) contacting the catalyst composition with one or more olefins under polymerization conditions to form a polyolefin.
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*16*  
41. (New) The process of Claim 40, wherein the components of the catalyst composition are contacted for between 1 min to one day.

*17*  
42. (New) The process of Claim 40, wherein the components of the catalyst composition are contacted for between one hour and one day.

*18*  
43. (New) The process of Claim 40, wherein the components in step (a) are combined in a diluent having a flash point of greater than 200°F (93°C).

*20*  
44. (New) The process of Claim 40, wherein the components in step (a) are combined in a hydrocarbon diluent.

*21*  
45. (New) The process of Claim 40, further comprising the step of combining a cycloalkadiene compound.

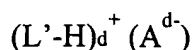
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46. (New) The process of Claim 45, wherein the cycloalkadiene compound is selected from cyclopentadiene, methylcyclopentadiene, ethylcyclopentadiene, t-butylcyclopentadiene, hexylcyclopentadiene, octylcyclopentadiene, 1,2-dimethylcyclopentadiene, 1,3-dimethylcyclopentadiene, 1,2,4-trimethylcyclopentadiene, 1,2,3,4-tetramethylcyclopentadiene, pentamethylcyclopentadiene, indene, 4-methyl-1-indene, 4,7-dimethylindene, 4,5,6,7-tetrahydroindene, fluorene, methylfluorene, cycloheptatriene, methylcycloheptatriene, cyclooctatetraene, methylcyclooctatetraene, fulvene and dimethylfulvene.

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47. (New) The process of Claim 40, wherein the catalyst compound is a metallocene compound.

48. (New) The process of Claim 40, wherein the catalyst compound is a transition metal catalyst based on bidentate ligands containing pyridine or quinoline moieties.

49. (New) The process of Claim 40, wherein the ionizing activator is a compound represented by the formula:



wherein L' is an neutral Lewis base;

H is hydrogen;

(L'-H)<sup>+</sup> is a Bronsted acid

A<sup>d-</sup> is a non-coordinating anion having the charge d-; and

d is an integer from 1 to 3.

50. (New) The process of Claim 40, wherein the ionizing activator is a tri-substituted boron, tellurium, aluminum, gallium, or indium compound or mixtures thereof.

51. (New) The process of Claim 40, wherein the mole ratio of the ionizing activator to the catalyst compound transition metal atom is from 0.01 to 1.0.

52. (New) The process of Claim 40, wherein the diluent is mineral oil.

53. (New) The process of Claim 40, wherein the process is a gas phase process.